

ABSTRACT OF THE DISCLOSURE

The invention provides methods for purifying one or more cells based on the level of one or more products secreted by the cells. In one embodiment, the method involves (a) contacting a plurality of cells immobilized in proximity to a capture matrix, the capture matrix capable of localizing a product secreted by one or more of the cells, with an agent that selectively binds to the product, the agent capable of generating a signal detectable as a property of light; (b) illuminating a population of the cells, the population contained in a frame; (c) detecting two or more properties of light directed from the frame, wherein a first property of light identifies substantially all cells of the population, and the second property of light identifies product localized to the capture matrix; (d) locating (i) substantially all cells of the population with reference to the detected first property of light, and (ii) one or more selected cells with reference to the detected second property of light, and (e) irradiating the non-selected cells, wherein each non-selected cell receives a substantially lethal dose of radiation, whereby one or more selected cells having a desired product secretion profile are purified.